Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claims 1 and 2 (Canceled).

3. (Currently amended) A method of performing channel estimation, the method comprising:

receiving a time domain signal sequence $\underline{r}$ and a midamble sequence $\underline{m}$;

multiplying, element-to-element, the sequences $\underline{m}$ and $\underline{r}$ by a chirp waveform, the chirp waveform being based on the length of a fast Fourier transform (FFT) and denoting the resulting sequences as $\underline{m}_W$ and $\underline{r}_W$ respectively~~, where $\underline{m}$ is a midamble sequence~~; and

creating a chirp sequence $\underline{v}$ based on the chirp waveform,

wherein the chirp waveform is $W^{n^2/2}$ for n=0,1,2,...,P-1 where P = 456 for burst types 1/3 or P = 192 for burst type 2, and $W = e^{-j\frac{2\pi}{P}}$ and wherein the chirp sequence $\underline{v} = W^{-(n-P+1)^2/2}$ for n= 0,1,2,...,2P-2.

Claims 4 - 7 (Canceled).

8. (Currently amended) A receiver for performing channel estimation, the receiver configured to:

receive a time domain signal $\underline{r}$ and a midamble sequence $\underline{m}$, multiply, element-to-element, the sequences $\underline{m}$ and $\underline{r}$ by a chirp waveform, the chirp waveform being based on the length of a fast Fourier transform (FFT) and denot~~eing~~ the resulting sequences as $\underline{m}_W$ and $\underline{r}_W$ respectively~~, where $\underline{m}$ is a midamble sequence~~; and

create a chirp sequence $\underline{v}$ based on the chirp waveform,

wherein the chirp waveform is $W^{n^2/2}$ for n=0,1,2,...,P-1 where P = 456 for burst types 1/3 or P = 192 for burst type 2, and $W = e^{-j\frac{2\pi}{P}}$ and wherein the chirp sequence $\underline{v} = W^{-(n-P+1)^2/2}$ for n=0,1,2,...,2P-2.

Claims 9 -12 (Canceled).

13. (Currently amended) A wireless transmit/receive unit (WTRU) for performing channel estimation, the WTRU configured to:

receive a time domain signal $\underline{r}$ and a midamble sequence $\underline{m}$, multiply, element-to-element, the sequences $\underline{m}$ and $\underline{r}$ by a chirp waveform, the chirp waveform being based on the length of a fast Fourier transform (FFT) and denote the resulting sequences as $\underline{m}_W$ and $\underline{r}_W$ respectively~~, where $\underline{m}$ is a midamble sequence~~; and

create a chirp sequence $\underline{v}$ based on the chirp waveform,

wherein the chirp waveform is $W^{n^2/2}$ for n=0,1,2,...,P-1 where P = 456 for burst types 1/3 or P = 192 for burst type 2, and $W = e^{-j\frac{2\pi}{P}}$ and wherein the chirp sequence $\underline{v} = W^{-(n-P+1)^2/2}$ for n=0,1,2,...,2P-2.

Claims 14-17 (Canceled).

18. (Currently amended) A base station (BS) for performing channel estimation, the BS configured to:

receive a time domain signal $\underline{r}$ and a midamble sequence $\underline{m}$, multiply, element-to-element, the sequences $\underline{m}$ and $\underline{r}$ by a chirp waveform, the chirp waveform being based on the length of a fast Fourier transform (FFT) and denote the resulting sequences as $\underline{m}_W$ and $\underline{r}_W$ respectively~~, where $\underline{m}$ is a midamble sequence~~; and

create a chirp sequence $\underline{v}$ based on the chirp waveform,

wherein the chirp waveform is $W^{n^2/2}$ for n = 0, 1, 2,...,P-1 where P = 456 for burst types 1/3 or P = 192 for burst type 2, and $W = e^{-j\frac{2\pi}{P}}$ and wherein the chirp sequence $\underline{v} = W^{-(n-P+1)^2/2}$ for n = 0, 1, 2, ...,2P-2.

Claims 19-33 (Canceled).